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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/751,765
Filing Date: December 29, 2000
Appellant(s): WIEDEMAN ET AL.

Kenneth W. Float
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed November 23, 2007 appealing from the
Office action mailed May 02, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6643517	Steer	11-2003
6157834	Helm	12-2000
6718169	Martti et al	4-2004
6352222	Maeda et al.	3-2002
6166687	Ishikawa et al.	12-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 7, 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer (U.S. Patent Number 6,643,517) in view of Helm et al. (U.S. Patent No. 6,157,834) in further view of Martti et al. (U.S. Patent No. 6,718,169)

Regarding claims 1, 7, 19-25, Steer teaches a method for operating a mobile communication system having at least one gateway (MSC), at least one user terminal (UT) and a group of base stations comprising steps of: providing a group of base stations and allowing access to the said group of base stations by specifying an exclusion zone and selectively providing service to the UT depending on a determined location of the UT relative to the exclusion zone (Column 3 lines 48-60), however, Steer fails to specifically teach the use of a constellation of satellites which provides mobile communication services to a UT. Helm et al teaches the use of a constellation of satellites which provides mobile communication services to a UT (Figure 1). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teaching of Steer with the teaching of Helm et al. of the use of a constellation of satellites which provides mobile communication services to a UT to provide mobile communications in area where terrestrial based cellular systems do not provide coverage. Steer and Helm et al teach the limitations of claims 1,7, 19-25 but do not teach a confidence limit (CL) and the estimated error (E). In the same field of endeavor, Martti et al. discloses a method for determining a confidence limit. In addition Martti et al. discloses the use of (b) a confidence limit and estimated error (which reads on column 1 lines 60-67 and column 2 lines 1-45). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Steer by modifying the a position location system with a confidence limit and estimated error as taught by Martti et al. for the purpose of setting the target value.

2. Claims 2-6, 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer, Helm et al. and Martti et al. in view of Maeda et al. (U.S. Patent Number 6,352,222).

Regarding claims 2,6,8,9, Steer discloses everything claimed as applied above (see claim 1) however, Steer fails to specifically disclose the use of the exclusion zone comprises at least one of a polygon that defines an area, a volume, or a surface.

In the same field of endeavor, Maeda et al. discloses a satellite, satellite control method and satellite communication system. In addition Maeda et al. discloses the use of a exclusion zone comprises at least one of a polygon that defines an area, a volume, or a surface (which reads on this as to form such a polygon that includes all the service areas, as disclosed in column 10 lines 37-39).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve the Steer, Helm et al. and Martti et al combination by modifying the position location system with the exclusion zone comprises at least one of a polygon that defines an area, a volume or a surface as taught by Maeda et al. for the purpose of setting the initial value for the orbital inclination angle.

Regarding claims 3-5, Steer discloses everything claimed as applied above (see claim 1), in addition Steer discloses a location of the UT (10) is determined by the UT (10), and transmitted to the GW (7) as disclosed in column 4 lines 45-67.

Regarding claim 10, Steer discloses everything claimed as applied above (see Claim 1), in addition Steer discloses the exclusion zone is specified to comprise a surface defined by at least two connected points on 'the Surface of the earth and at least point located above the surface of the earth as disclosed in column 5 lines 4-15.

Regarding claims 11-12, Steer discloses everything claimed as applied above (see claim 1), in addition Steer discloses boundaries of the exclusion zone are static as disclosed in column 5 lines 4-15.

3. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer, Helm et al., Martti et al. and Maeda et al. and further in view of Ishikawa et al. (U.S. Patent Number 6,166,687).

Regarding claims 13-18, Steer, Helm et al., Martti et al. and Maeda et al. teach the limitations of claims 1-12, but do not teach the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the UT.

In the same field of endeavor, Ishikawa et al. discloses a method for determining position of mobile earth station in satellite communication system. In addition Ishikawa et al. discloses the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the GW (which reads on it is possible to perform high accuracy position determination by estimating and

Compensating for the timing error arising from instability in the accuracy of the clock of the mobile earth station and the frequency error resulting from instability of the frequency oscillator of the mobile earth station, as disclosed in column 6 lines 10-20).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve the combination of Steer, Helm et al., Martti et al. and Maeda et al. with Ishikawa et al. wherein the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the UT as taught by Ishikawa et al. for the purpose of determine the estimated position of the mobile earth station relative to its true position.

Allowable Subject Matter

4. Claim 26 is allowed. The reason for allowable subject matter is provided below:

Referring to claim 26, the references cited do not teach a mobile satellite communication system comprising at least one gateway (GW), at least one user terminal (UT), and a constellation of satellites, said GW comprising a controller for controlling operations of said UT and further comprising an interface to at least one of the Public Switched Telephone Network (PSTN) or to the Internet, said GW storing a database containing at least one of a Confidence Polygon, a Confidence Volume, or a Confidence Surface to establish a geometric shape located on the earth, above the earth or in space, or combinations thereof, said GW further storing a static or a variable Confidence Limit (CL) value that is compared to a value of an error (E) in a position location of the UT, said controller acting upon the database and assigned or derived

values of CL and E, to determine if a comparison of CL and E, combined with a current position of the UT, yields a certain result according to the operational mode of the GW controller, wherein depending on the operational mode of the GW the result of the comparison affects control of the UT or an external device attached to the UT, whereby the UT is forbidden or allowed to access the mobile satellite system or to make or receive a call, or depending on the operational mode of the GW the result of the comparison affects some operational characteristic of the UT to provide an ability to protect a site from UT emissions.

(10) Response to Argument

There are several prior art references that teach an exclusion zone within a communication system with emphasis on the exclusion of communication in hospitals, airports and theatres. The Appellant teaches an exclusion zone in which the communication system is a satellite communication system. Many location determination methods exist with some methods more accurate than others. The Appellant applies well known statistics to the exclusion zone to help determine whether some one is within or outside of the exclusion zone, particularly when the location determination method determines that the person is at the boundary of the exclusion zone. Appellant goes through a lengthy discussion that Steer is specifically directed to an exclusion zone in a land-based cellular communication system. Remote areas that include hospitals, airports, MASH units, Vertical Short Take-Off and Landing (VSTOL) runways used by the military and even third world countries often rely on satellite communication systems for communication. Clearly applying an exclusion zone to a

different mobile communication system, such as a satellite communication system, is an obvious modification. In addition, Steer states in Column 10, Lines 47-50 that:

"Accordingly, the more generic term "mobile radio unit" will serve to include ***all types of mobile radio devices*** capable of communicating with base stations in a mobile communications system." Therefore, since a satellite is a base station and all types of mobile radio devices would include a satellite communication device, the communication system is not limited to land-based mobile communication systems as suggested by Appellant. Steer does not mention anywhere in his teaching that his invention is to be used exclusively in a land-based mobile communication system and uses the term mobile radio system throughout his specification and states that the mobile radio unit includes and mobile radio device.

Appellant further argues that Steer does not teach a gateway (MSC). Figure 1 of Steer shows in the form of a cloud a mobile communication network and since this is an ordinary mobile communication system that would include a gateway to a public switched telephone network and MSCs, Steer does teach a gateway. Steer combined with Helm et al. would provide the setting of a exclusion zone in a satellite communication system. Helm et al. clearly depicts in figure 1 a satellite gateway also see abstract.

Appellant further argues that Steer does not selectively provide service to the mobile radio based upon its location. In Column 10, Lines 1-15 Steer teaches

according to the broadcast warning from the base station that defines the parameters of the protected zone and other information, that if the mobile device is located in the protected zone, the mobile device selects to provide limited service or no service and when located outside the protected area the mobile phone selects to provide full service.

Appellant further argues that with Steer there is basically absolute confidence that the mobile unit is within the protected zone and that there is no estimated error. Steer states in Column 9, Lines 23-34 that: "***It is obvious that there will be some uncertainty involved in both the definition of the protected region and the measured location of the mobile.*** As part of the broadcast transmission defining the protected region, additional information may also be included to define the accuracy needed for establishing measurements and for comparison with the boundaries of the protected region. There may not be the same accuracy limits on all sides and in all directions. Many protected regions may be less sensitive to interference at their edges and, so, may be able to accommodate some penetration of the edges as long as the core region is protected." Therefore, Steer teaches an error associated with location and definition of the protected region and Martti et al teach a confidence limit and deviation of the confidence limit, the combination would suggest comparing an estimated error to the confidence limit.

Regarding Appellants drawn out argument over Claims 2,6,8 and 9 in which the limitation includes the shape of the exclusion zone, the shape or dimensions of the exclusion zone is clearly an obvious modification and the Examiner has simply used Maeda to show a teaching of an exclusion zone that includes a service area that has a polygon shape on the surface of the earth. Appellant further argues that combining 4 references is too many references to combine. There is nothing in the MPEP stating that only three references are permitted in a 103 rejection. If this were the case, any Applicant could choose 4 Patents and choose from each patent a limitation not included in the others and combine them in such a way as to create another patent. If it is agreed that it's an obvious modification to Steer to provide an exclusion zone in a satellite communication system then setting the initial value for the orbital inclination angle is a suggestion to combine Maeda with Steer, Helm et al. with Martii.

Regarding Appellants argument of claim 10, that Steer does not teach the exclusion zone is specified to comprise a surface defined by at least two connected points on the surface of the earth and at least one point above the surface of the earth. As Appellant indicates Steer teaches the boundaries may be described by means of the standard latitude and longitude measures of the boundaries of the region inside which mobile radio operations are to be restricted. This region is a volume, the restricted area is not confined to the surface of the earth such that someone can walk into the region using the phone as long as its not touching the surface of the earth. A volume has infinite surfaces and certainly one such surface could contain two points on the ground

and one above the ground. Steer states in column 5, Lines 3-4 that: "The region to be protected is defined generally as a volume of space with geographic boundaries."

Regarding Appellants argument of claim 12, that Steer does not teach the exclusion area is capable of at least movement or change in shape. As an Airport, theatre, library, hospital or expands or contracts so would the shape of the exclusion zone. In addition, Steer states in Column 2, 38-40 that a mobile device that is programmed with prohibited areas are not easily adapted to change.

Regarding Appellants arguments of claims 13-18 wherein Ishikawa et al. doesn't teach E is a function of the accuracy of the UT local oscillator and is stored in the UT. Ishikawa et al states in Column 6, Lines 10-23 that " by using the information about measured distances and Doppler shift amounts between the mobile earth station and the non-geostationary satellite, which are measured at different local times, errors in time which are attributable to instability in the position of the mobile earth station and in the accuracy of the clock mounted in the mobile earth station and errors in frequency which result from instability of the frequency oscillator mounted in each mobile earth station can be estimated at the same time. By removing the factors responsible for these errors, it is possible to achieve high accuracy position determination of the mobile earth station." And further teaches in Column 6, Lines 59-64 "Besides, by *estimating* and compensating for errors in time resulting from instability in the accuracy of the clock of the mobile earth station and errors in frequency arising from instability of the

frequency oscillator of the mobile earth station, high-accuracy position determination of the mobile earth station can be achieved. " To make such an estimation the type of oscillator used in the mobile earth station would be stored in the mobile earth station and this would specify the accuracy of the local oscillator. Being that the satellite communication system does the location determination and many communication satellites are gateways the satellite must at least temporarily store the accuracy of the local oscillator. Again, If it is agreed that its an obvious modification to Steer to provide an exclusion zone in a satellite communication system then there is good reason to combine Maeda with Steer, Helm et al. and Martii with Ishikawa et al. to determine the estimated position of the mobile earth station relative to its true position.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'James D Ewart', with a stylized, cursive script.

James D Ewart

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Art Unit: 2617


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